STIC SEARCH REPORT

```
=> fil reg
FILE 'REGISTRY' ENTERED AT 15:21:12 ON 21 FEB 2007
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provided by InfoChem.

STRUCTURE FILE UPDATES:   19 FEB 2007  HIGHEST RN 921921-74-6
DICTIONARY FILE UPDATES:  19 FEB 2007  HIGHEST RN 921921-74-6

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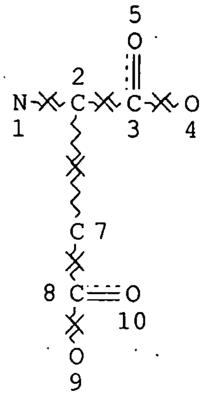
TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> d sta que l66
L57                STR
```



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NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS    9

STEREO ATTRIBUTES: NONE
L59                SCR 1918 OR 1920 OR 1964 OR 1975 OR 1991 OR 1926 OR 1956 O
R 2049
L61          6375 SEA FILE=REGISTRY SSS FUL L57 AND L59
L62          1459 SEA FILE=REGISTRY ABB=ON  PLU=ON  L61 AND (ZN OR MN OR FE OR
                   CU)/ELS
L63          1291 SEA FILE=REGISTRY ABB=ON  PLU=ON  L62 AND CCS/CI
L64                STR
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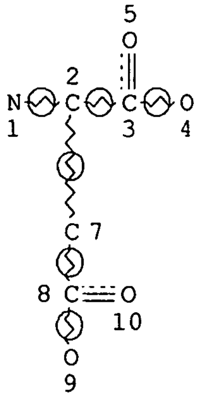

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NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   9

STEREO ATTRIBUTES: NONE
L66          389 SEA FILE=REGISTRY SUB=L63 SSS FUL L64

100.0% PROCESSED     389 ITERATIONS                        389 ANSWERS
SEARCH TIME: 00.00.01


=> d his

     (FILE 'HOME' ENTERED AT 13:45:05 ON 21 FEB 2007)
                SET COST OFF

     FILE 'HCAPLUS' ENTERED AT 13:45:19 ON 21 FEB 2007
L1             1 S US20040206144/PN OR (US2003-684925# OR DE2002-10248022)/AP,PR
                 E MITSCHKER/AU
L2            49 S E4,E5
                 E MORITZ/AU
L3             4 S E3
                 E MORITZ R/AU
L4            71 S E3,E6,E10-E12
                 E NAWROCKI/AU
L5            13 S E4,E5
L6             2 S N 1 2 DICARBOXYETHYL D L ASPARTIC ACID
L7             0 S N 1 2 DICARBOXYETHYL D ASPARTIC ACID
L8             0 S N 1 2 DICARBOXYETHYL L ASPARTIC ACID
L9             0 S N 1 2 DICARBOXYETHYL DL ASPARTIC ACID
L10            7 S N 1 2 DICARBOXYETHYL ASPARTIC ACID
L11            8 S L6-L10
L12            2 S IMIDOSUCCINIC ACID
L13            0 S IMIDO SUCCINIC ACID
L14            0 S IMIDO SUCCINATE
L15            1 S IMIDOSUCCINATE
                 SEL RN L1

     FILE 'REGISTRY' ENTERED AT 13:50:23 ON 21 FEB 2007
```

```
L16          10 S E1-E10
                E C8H11NO8/MF
L17          18 S E3
L18           5 S L17 AND DICARBOXYETHYL
L19          10 S L17 AND ASPART?
L20           5 S L18 AND L19
L21           5 S L19 NOT L20
L22           8 S L17 NOT L18-L21
L23           3 S C8H7NO8/MF
L24           1 S L23 AND ION
L25           5 S C8H9NO8/MF
L26           1 S L25 AND ION
L27           1 S C8H10NO8/MF
L28           1 S C8H8NO8/MF
L29           9 S L20,L24,L26,L27,L28
                SEL RN
L30          35 S E1-E9/CRN
L31           5 S L30 AND (ZN OR MN OR FE OR CU)/ELS
L32          30 S L30 NOT L31
L33           5 S L16 NOT L29,L31

     FILE 'HCAPLUS' ENTERED AT 13:58:22 ON 21 FEB 2007
L34           3 S L31
L35         207 S L29
L36          22 S L35 AND L33
L37          75 S L32
L38           7 S L37 AND L33
L39          27 S L34,L36,L38
L40           6 S L39 AND PY<=2002 NOT P/DT
L41          10 S L39 AND (PD<=20021015 OR PRD<=20021015 OR AD<=20021015) AND P
L42          16 S L40,L41
L43           2 S L1-L5 AND L39
L44          16 S L42,L43
L45          11 S L39 NOT L44
L46           6 S L44 AND AGR?/SC,SX
L47           4 S L44 AND SOIL?/SC,SX
L48           4 S L44 AND FERTILIZ?/SC,SX
L49           4 S L42 AND (L31 OR L35 OR L32)(L)AGR/RL
L50           8 S L46-L49
L51           8 S L44 NOT L50
                SEL RN L39

     FILE 'REGISTRY' ENTERED AT 14:04:51 ON 21 FEB 2007
L52         271 S E10-E280
L53          38 S L52 AND CCS/CI
L54          37 S L53 AND N/ELS
L55           4 S L54 AND ASPAR?
L56          33 S L54 NOT L55
L57             STR
L58          36 S L57
L59             SCR 1918 OR 1920 OR 1964 OR 1975 OR 1991 OR 1926 OR 1956 OR 204
L60          50 S L57 AND L59
L61        6375 S L57 AND L59 FUL
                SAV L61 SAYALA684/A
L62        1459 S L61 AND (ZN OR MN OR FE OR CU)/ELS
L63        1291 S L62 AND CCS/CI
L64             STR L57
L65          18 S L64 SAM SUB=L63
L66         389 S L64 FUL SUB=L63
                SAV L66 SAYALA684A/A
```

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L67          151 S L66 AND CU/ELS
L68          145 S L66 AND FE/ELS
L69           44 S L66 AND MN/ELS
L70           52 S L66 AND ZN/ELS
L71          141 S L67 AND 1/CU
L72          141 S L68 AND 1/FE
L73           36 S L69 AND 1/MN
L74           48 S L70 AND 1/ZN
L75           24 S L74 AND (AQUO OR ACETONITRILE OR NONYL OR DIAQUA OR PYRIDINYL
L76           24 S L74 NOT L75
L77           14 S L73 AND (AQUA OR NONYL OR DIAQUA OR IMIDAZOLE OR AMINOETHYL O
L78           22 S L73 NOT L77
L79          139 S L71 NOT L73-L78
L80           54 S L79 AND (AQUO OR ACETONITRILE OR NONYL OR DIAQUA OR PYRIDINYL
L81           85 S L79 NOT L80
L82           41 S L81 AND (S/ELS OR LEUCIN? OR VALIN? OR GLUTAM? OR NAPHTH? OR
L83           44 S L81 NOT L82
L84          141 S L72 NOT L71,L73-L83
L85           22 S L84 AND (S/ELS OR LEUCIN? OR VALIN? OR GLUTAM? OR NAPHTH? OR
L86           13 S L84 AND (AQUO OR ACETONITRILE OR NONYL OR DIAQUA OR PYRIDINYL
L87            5 S L84 AND C6/ES
L88          112 S L84 NOT L85-L87
L89           16 S L88 AND (C7H8F3NO6 OR C16H16FEN2O15 OR C10H13FEN3O8 OR NITRAT
L90           96 S L88 NOT L89
L91           50 S L90 AND (C6H6FENO6 OR C15H22FEN2O8 OR C10H10FEN3O6 OR C8H11FE
                 SEL RN 2 6-8 12 23-33 43-45 47 50
L92           29 S L91 NOT E281-E301
L93          121 S L55,L76,L78,L83,L92
L94          243 S L71-L74 NOT L93
L95           24 S L94 AND ZN/ELS
L96           14 S L94 AND MN/ELS
L97           95 S L94 AND CU/ELS
L98          110 S L94 NOT L95-L97
L99           57 S L98 AND (C10H10FEN2O8 OR C10H12FEN2O8 OR C9H10FEN2O8 OR C8H10
L100          51 S L99 NOT (METHYLASPART? OR DIAQUA)
L101         172 S L93,L100
                 SAV L101 SAYALA684B/A

     FILE 'HCAPLUS' ENTERED AT 15:16:53 ON 21 FEB 2007
L102         173 S L101
L103          71 S L102 AND PY<=2002 NOT P/DT
L104          84 S L102 AND (PD<=20021015 OR PRD<=20021015 OR AD<=20021015) AND
L105         155 S L103,L104
L106           0 S L1-L5 AND L102
L107           2 S L102 (L) AGR/RL AND L105
L108           4 S L102 AND AGR?/SC,SX AND L105
L109           2 S L102 AND (SOIL? OR FERTILIZ?)/SC,SX
L110           4 S L102 AND PLANT?/SC,SX
L111           7 S L105 AND L107-L110
                 E HYDROPONICS/CT
                 E E3+ALL
L112           0 S L3 AND L105
L113           0 S L9+OLD,NT AND L105
L114          14 S L50,L111
L115          14 S L43,L114
L116           0 S BAYER?/PA,CS AND L102
L117           3 S BAYER?/PA,CS AND L42
L118          14 S L115,L117
                 E LANXESS/PA,CS
L119           0 S LANXESS?/PA,CS AND L102,L42
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     FILE 'REGISTRY' ENTERED AT 15:21:12 ON 21 FEB 2007

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 15:21:32 ON 21 FEB 2007
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FILE LAST UPDATED: 19 Feb 2007  (20070219/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

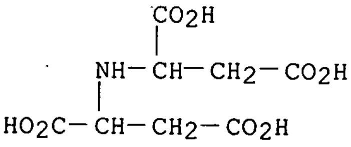
=> d l118 bib abs hitind hitstr retable tot

L118 ANSWER 1 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   2004:326172  HCAPLUS
DN   140:338614
TI   Chelated plant micronutrients
IN   Mitschker, Alfred; Moritz, Ralf-Johann; Nawrocki,
     Adam
PA   Bayer Chemicals A.-G., Germany; Przedsiebiorstwo
     Produkcyjno-Consultingowe Adob
SO   Eur. Pat. Appl., 7 pp.
     CODEN: EPXXDW
DT   Patent
LA   German
FAN.CNT 1
     PATENT NO.          KIND    DATE        APPLICATION NO.        DATE
     ---------------     ----    --------    --------------------   --------
PI   EP 1411037           A1     20040421    EP 2003-22295          20031002 <--
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     DE 10248022          A1     20040506    DE 2002-10248022       20021015 <--
     ZA 2003007945        A      20040623    ZA 2003-7945           20030101 <--
     AU 2003252201        A1     20040429    AU 2003-252201         20030926 <--
     CA 2444830           A1     20040415    CA 2003-2444830        20031010 <--
     NZ 528826            A      20050324    NZ 2003-528826         20031010 <--
     BR 2003004486        A      20040831    BR 2003-4486           20031014 <--
     US 2004206144        A1     20041021    US 2003-684925         20031014 <--
     CN 1508095           A      20040630    CN 2003-10102834       20031015 <--
PRAI DE 2002-10248022     A      20021015  <--
AB   Chelated plant micronutrients comprise Na, K, Na/NH4 or K/NH4 salts of
     N-(1,2-dicarboxyethyl)-D,L-aspartic acid or their mixts. with inorg. or or
     organic Zn, Mn, Fe(II) or Fe(III) salts.
```

IC ICM C05D0009-02
ICS C07C0229-24; C07C0229-76
CC 19-6 (**Fertilizers, Soils,** and Plant Nutrition)
IT **679823-12-2 679823-14-4 679823-18-8**
679823-21-3
RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
(chelated plant micronutrient)
IT **7439-96-5D**, Manganese, salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts **7440-66-6D**, Zinc, salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts **15158-11-9D**, Copper(II), salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts, biological studies **15438-31-0D**, salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts, biological studies **20074-52-6D**, salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts, biological studies **70543-06-5D**, salts
RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
(chelated plant micronutrients)
IT **679823-12-2 679823-14-4 679823-18-8**
679823-21-3
RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
(chelated plant micronutrient)
RN 679823-12-2 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)-, tetrasodium salt, mixt. with zinc chloride (ZnCl2) (9CI) (CA INDEX NAME)

CM 1

CRN 144538-83-0
CMF C8 H11 N O8 . 4 Na



$$\begin{array}{l} \qquad\quad CO_2H \\ \qquad\quad | \\ \quad NH-CH-CH_2-CO_2H \\ \quad | \\ HO_2C-CH-CH_2-CO_2H \end{array}$$

● 4 Na

CM 2

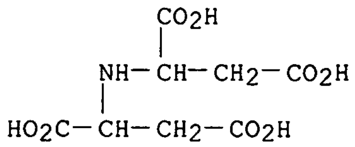
CRN 7646-85-7
CMF Cl2 Zn

Cl—Zn—Cl

RN 679823-14-4 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)-, tetrasodium salt, mixt. with manganese(2+) dinitrate (9CI) (CA INDEX NAME)

CM 1

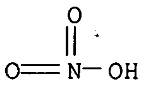
CRN 144538-83-0
CMF C8 H11 N O8 . 4 Na



● 4 Na

CM 2

CRN 10377-66-9
CMF H N O3 . 1/2 Mn

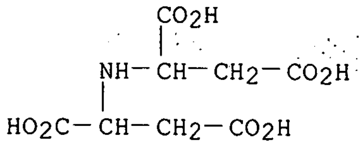


● 1/2 Mn(II)

RN 679823-18-8 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)-, monoammonium dipotassium salt, mixt. with copper(2+) dinitrate (9CI) (CA INDEX NAME)

CM 1

CRN 617695-98-4
CMF C8 H11 N O8 . H3 N . 2 K

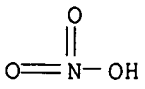


● 2 K

● NH_3

CM 2

CRN 3251-23-8
CMF Cu . 2 H N O3



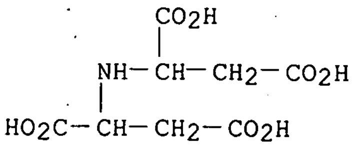
$O=N(=O)-OH$

● 1/2 Cu(II)

RN 679823-21-3 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)-, tetrasodium salt, mixt. with iron(3+) trinitrate (9CI) (CA INDEX NAME)

CM 1

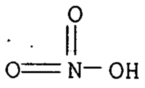
CRN 144538-83-0
CMF C8 H11 N O8 . 4 Na



● 4 Na

CM 2

CRN 10421-48-4
CMF Fe . 3 H N O3



$O=N(=O)-OH$

● 1/3 Fe(III)

IT **7439-96-5D**, Manganese, salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts **7440-66-6D**, Zinc, salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts **15158-11-9D**, Copper(II), salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts, biological studies **15438-31-0D**, salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts, biological studies **20074-52-6D**, salts, mixts. with N-(1,2-dicarboxyethyl)-D,L-aspartic acid salts, biological studies **70543-06-5D**, salts
RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
(chelated plant micronutrients)
RN 7439-96-5 HCAPLUS
CN Manganese (CA INDEX NAME)

Mn

RN 7440-66-6 HCAPLUS
CN Zinc (CA INDEX NAME)

Zn

RN 15158-11-9 HCAPLUS
CN Copper, ion (Cu2+) (CA INDEX NAME)

Cu^{2+}

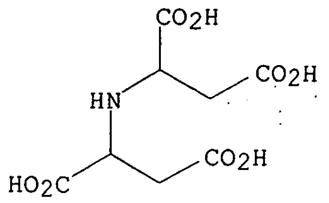
RN 15438-31-0 HCAPLUS
CN Iron, ion (Fe2+) (CA INDEX NAME)

Fe^{2+}

RN 20074-52-6 HCAPLUS
CN Iron, ion (Fe3+) (CA INDEX NAME)

Fe^{3+}

RN 70543-06-5 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1997	1997		PATENT ABSTRACTS OF	
Bayer Ag	2003			EP 1359140 A	HCAPLUS
Nitto Chem Ind Co Ltd	1997			JP 09136807 A	HCAPLUS

L118 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:870488 HCAPLUS
DN 139:339278
TI Process for the preparation of iminodisuccinic acid ammonium metal salts for industrial usage
IN Groth, Torsten; **Mitschker, Alfred; Moritz, Ralf-Johann**

```
        ; Klein, Thomas; Menzel, Thomas; Wirth, Wolfgang
PA      Bayer Aktiengesellschaft, Germany
SO      Eur. Pat. Appl., 18 pp.
        CODEN: EPXXDW
DT      Patent
LA      German
FAN.CNT 1
        PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
        ---------------     ----   --------    --------------------    --------
PI      EP 1359140          A1     20031105    EP 2003-8667            20030416 <--
            R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
        DE 10219037         A1     20031106    DE 2002-10219037        20020429 <--
        US 2003220522       A1     20031127    US 2003-423326          20030425 <--
        JP 2004035549       A      20040205    JP 2003-124993          20030430 <--
PRAI DE 2002-10219037       A      20020429  <--
AB      Title compds. of composition IDS(NH4)x(Na)y(K)z(M)m.(NH3)n [IDS =
        iminodisuccinic acid; M = metal; x = 0.1-3.9; yr = 0-3; z = 0-3; m =
        0.1-2; n = 0-6] were prepared as mixts. of R,R-, S,S-, or R,S-isomers from
        maleic acid anhydride, for use in, e.g., agriculture as fertilizer trace
        nutrient additives or the ceramic industry (no data).  Thus, maleic acid
        anhydride was reacted with ammonia, water, and a metal compound (e.g., KOH,
        ZnO, Cu(OH)2, Mg(OH)2, Ca(OH)2, (CH3C(O))2Mn.2H2O), to give title
        products.
IC      ICM  C07C0229-24
        ICS  C07C0227-08; A01N0037-44
CC      45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
        Section cross-reference(s): 5, 19, 34, 44
IT      415719-09-4P 617695-94-0P 617695-96-2P
        617696-01-2P
        RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic
        preparation); PREP (Preparation); RACT (Reactant or reagent)
           (preparation of iminodisuccinic acid ammonium metal salts for industrial
           usage)
IT      7439-95-4DP, Magnesium, iminodisuccinate complexes, ammonium salts
        7439-96-5DP, Manganese, iminodisuccinate complexes, ammonium salts
        7440-50-8DP, Copper, iminodisuccinate complexes, ammonium potassium salts
        7440-66-6DP, Zinc, iminodisuccinate complexes, ammonium salts
        7440-70-2DP, Calcium, iminodisuccinate complexes, ammonium salts
        70543-06-5DP, metal ammonium complexes 617695-98-4P
        RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
        (Preparation)
           (preparation of iminodisuccinic acid ammonium metal salts for industrial
           usage)
IT      415719-09-4P 617695-94-0P 617695-96-2P
        617696-01-2P
        RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic
        preparation); PREP (Preparation); RACT (Reactant or reagent)
           (preparation of iminodisuccinic acid ammonium metal salts for industrial
           usage)
RN      415719-09-4  HCAPLUS
CN      Aspartic acid, N-(1,2-dicarboxyethyl)-, triammonium salt (9CI)  (CA INDEX
        NAME)
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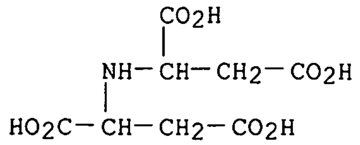
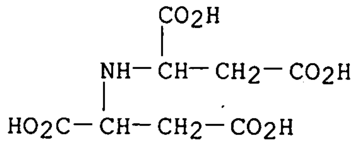


$\mathrm{HO_2C{-}CH(CH_2{-}CO_2H){-}NH{-}CH(CO_2H){-}CH_2{-}CO_2H}$

● 3 NH_3

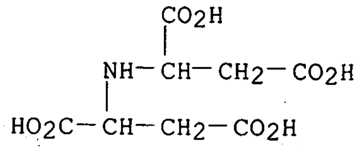
RN 617695-94-0 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)-, tetraammonium salt (9CI) (CA INDEX NAME)



$\mathrm{HO_2C{-}CH(CH_2{-}CO_2H){-}NH{-}CH(CO_2H){-}CH_2{-}CO_2H}$

● 4 NH_3

RN 617695-96-2 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)-, ammonium potassium salt (9CI) (CA INDEX NAME)

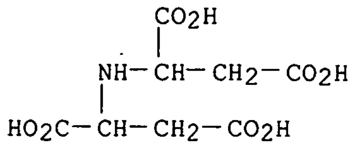


$\mathrm{HO_2C{-}CH(CH_2{-}CO_2H){-}NH{-}CH(CO_2H){-}CH_2{-}CO_2H}$

● x K

● x NH_3

RN 617696-01-2 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)-, diammonium salt (9CI) (CA INDEX NAME)



$$\begin{array}{lll} & & CO_2H \\ & & | \\ & NH- & CH-CH_2-CO_2H \\ & | & \\ HO_2C- & CH- & CH_2-CO_2H \end{array}$$

●2 NH3

IT 7439-96-5DP, Manganese, iminodisuccinate complexes, ammonium salts
7440-66-6DP, Zinc, iminodisuccinate complexes, ammonium salts
70543-06-5DP, metal ammonium complexes **617695-98-4P**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of iminodisuccinic acid ammonium metal·salts for industrial usage)

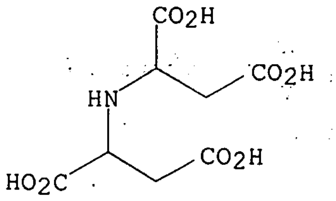
RN 7439-96-5 HCAPLUS
CN Manganese (CA INDEX NAME)

Mn

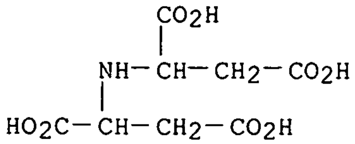
RN 7440-66-6 HCAPLUS
CN Zinc (CA INDEX NAME)

Zn

RN 70543-06-5 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)- (9CI) (CA INDEX NAME)



RN 617695-98-4 HCAPLUS
CN Aspartic acid, N-(1,2-dicarboxyethyl)-, monoammonium dipotassium salt (9CI) (CA INDEX NAME)



$HO_2C-CH(CH_2-CO_2H)-NH-CH(CO_2H)-CH_2-CO_2H$

● 2 K

● NH_3

```
RETABLE
   Referenced Author    |Year | VOL | PG   | Referenced Work    | Referenced
        (RAU)           |(RPY)|(RVL)|(RPG) |       (RWK)        | File
=====================+=====+=====+======+====================+===========
Anzai, R                |2001 |     |      |JP 2001302415 A     |HCAPLUS
Asakawa, Y              |1996 |     |      |JP 08041490 A       |HCAPLUS
Dean, F                 |2001 |     |      |US 2001044381 A1    |
Joentgen, W             |1998 |     |      |WO 9845251 A        |HCAPLUS
Maekawa, K              |2000 |     |      |JP 2000290698 A     |HCAPLUS

L118 ANSWER 3 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   2003:719230  HCAPLUS
DN   139:241693
TI   Selective herbicide compositions comprising transition metal chelates
IN   Sedun, Frederick S.; Taylor, Kim F.; Wilson, Cameron D.; Parker, Diana L.;
     Almond, David S.
PA   W. Neudorff G.m.b.H. K.-G., Germany
SO   PCT Int. Appl., 33 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE         APPLICATION NO.         DATE
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PI   WO 2003073856        A1    20030912     WO 2003-EP2069          20030228 <--
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     US 2003181332        A1    20030925     US 2003-374643          20030226 <--
     US 6972273           B2    20051206
     CA 2477493           A1    20030912     CA 2003-2477493         20030228 <--
     AU 2003211724        A1    20030916     AU 2003-211724          20030228 <--
     EP 1489909           A1    20041229     EP 2003-743354          20030228 <--
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     US 2006084575        A1    20060420     US 2005-252192          20051017 <--
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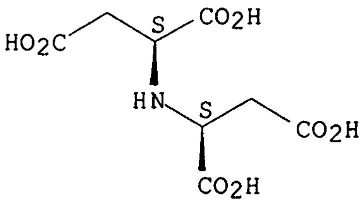
PRAI US 2002-361217P      P     20020301  <--
     US 2003-374643       A1    20030226
     WO 2003-EP2069       W     20030228
AB   An environmentally safe selective herbicide is provided that includes at
     least one metal component and at least one chelating agent.  The metal
     component can have a variety of forms, but is preferably in the form of a
     metal salt, a metal chelate, or combinations thereof.  The chelating agent
     can also have a variety of forms, but is preferably in the form of a metal
     chelate, a salt, an acid, or combinations thereof.
IC   ICM  A01N0059-16
     ICS  A01N0059-20; A01N0037-44; A01N0037-32; A01N0043-58
CC   5-3 (Agrochemical Bioregulators)
IT   56-40-6, Glycine, biological studies   56-41-7, L-Alanine, biological
     studies   56-45-1, L-Serine, biological studies   56-84-8, Aspartic acid,
     biological studies   56-85-9, L-Glutamine, biological studies   56-86-0,
     Glutamic acid, biological studies   56-87-1, L-Lysine, biological studies
     60-00-4, Ethylenediaminetetraacetic acid, biological studies   60-18-4,
     L-Tyrosine, biological studies   61-90-5, L-Leucine, biological studies
     63-68-3, L-Methionine, biological studies   64-02-8, Glycine,
     N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, tetrasodium salt   64-19-7,
     Acetic acid, biological studies   67-42-5   67-43-6,
     Diethylenetriaminepentaacetic acid   69-72-7, Salicylic acid, biological
     studies   70-47-3, L-Asparagine, biological studies   71-00-1,
     L-Histidine, biological studies   72-18-4, L-Valine, biological studies
     72-19-5, L-Threonine, biological studies   73-32-5, L-Isoleucine,
     biological studies   74-79-3, L-Arginine, biological studies   77-92-9,
     Citric acid, biological studies   80-69-3, Tartronic acid   87-69-4,
     Tartaric acid, biological studies   93-62-9   97-65-4, Itaconic acid,
     biological studies   102-71-6, Triethanolamine, biological studies
     107-15-3, Ethylenediamine, biological studies   110-15-6, Succinic acid,
     biological studies   110-44-1, Sorbic acid   110-94-1, Glutaric acid
     110-99-6, Diglycolic acid   111-42-2, Diethanolamine, biological studies
     112-24-3   139-13-9, Nitrilotriacetic acid   141-43-5, Monoethanolamine,
     biological studies   142-73-4, Iminodiacetic acid   147-85-3, L-Proline,
     biological studies   149-91-7, Gallic acid, biological studies   150-25-4,
     Diethanol glycine   482-54-2   498-23-7, Citraconic acid   499-12-7,
     Aconitic acid   499-83-2, Dipicolinic acid   528-94-9, Ammonium salicylate
     541-50-4, Diacetic acid, biological studies   688-57-3D, Ethylenediamine
     triacetic acid, alkoyl derivs.   817-11-8, Nitrilotripropionic acid
     1170-02-1   2809-21-4   3148-72-9   4408-64-4, Methyliminodiacetic acid
     4408-81-5, 1,2-Diaminopropanetetraacetic acid   6419-19-8, Aminotri
     (methylenephosphonic acid) 7408-20-0, Iminodisuccinic acid
     13073-35-3, Ethionine   13288-40-9   13598-36-2, Phosphonic acid
     20846-91-7   23351-51-1, Glucoheptonic acid   29578-05-0, Methyl glycine
     diacetic acid   32013-58-4   33872-70-7, Hydroxyethylenediaminetriacetic
     acid   40623-42-5   58976-65-1   87339-38-6, Hydroxyiminodiacetic acid
     89198-07-2   133677-59-5   148124-42-9   167613-87-8
     RL: AGR (Agricultural use); BSU (Biological study,
     unclassified); BIOL (Biological study); USES (Uses)
        (chelating agent in selective herbicide compns. comprising transition
        metal chelates)
IT   7439-89-6D, Iron, chelates   7440-02-0D, Nickel, chelates   7440-50-8D,
     Copper, chelates 7440-66-6D, Zinc, chelates   15009-37-7
     17084-02-5   17099-81-9   51395-10-9, Copper EDTA   55448-21-0, ZnEDTA
     167256-48-6 167256-48-6D, mixture with beet molasses
     187165-07-7   596113-16-5   596113-17-6   596113-18-7   596113-19-8
     596113-20-1   596113-21-2   596113-22-3   596113-23-4   596113-24-5
     596113-25-6   596113-26-7   596113-27-8   596113-28-9   596113-29-0
     596113-30-3   596113-31-4   596113-32-5   596113-33-6   596113-34-7
     596113-35-8   596113-36-9   596113-37-0   596113-38-1   596113-39-2
```

596113-40-5 596113-42-7 596113-43-8 596113-44-9 596113-45-0
RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(selective herbicide compns. comprising)

IT **7408-20-0**, Iminodisuccinic acid
RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(chelating agent in selective herbicide compns. comprising transition metal chelates)

RN 7408-20-0 HCAPLUS
CN L-Aspartic acid, N-[(1S)-1,2-dicarboxyethyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

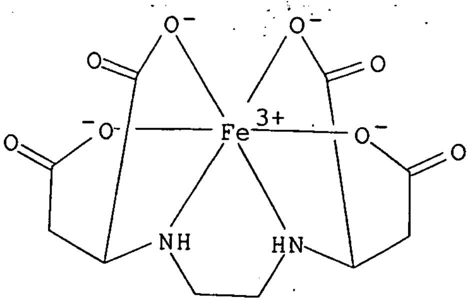


IT **7440-66-6D**, Zinc, chelates **167256-48-6**
167256-48-6D, mixture with beet molasses
RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(selective herbicide compns. comprising)

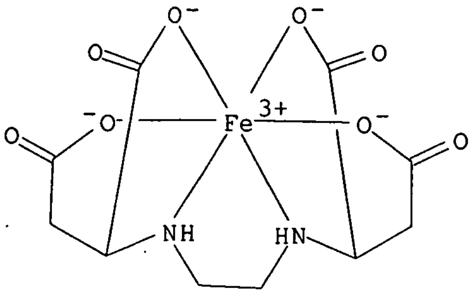
RN 7440-66-6 HCAPLUS
CN Zinc (CA INDEX NAME)

Zn

RN 167256-48-6 HCAPLUS
CN Ferrate(1-), [[N,N'-1,2-ethanediylbis[L-aspartato-κN,κO1,κO4]](4-)]- (9CI) (CA INDEX NAME)



RN 167256-48-6 HCAPLUS
CN Ferrate(1-), [[N,N'-1,2-ethanediylbis[L-aspartato-κN,κO1,κO4]](4-)]- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Basf Ag	2001			WO 0144236 A	HCAPLUS
Bitterfeld Chemie	1988			DD 260646 A	HCAPLUS
Bitterfeld Wolfen Chemi	1991			DD 295077 A	HCAPLUS
Chen, J	2002			US 2002016491 A1	
Ciba Geigy Ag	1997			WO 9702747 A	HCAPLUS
Dixie Chemical Co	2000			WO 0003599 A	HCAPLUS
Teijin Ltd	1983			JP 58162508 A	HCAPLUS
Thomas, I	1999			WO 9938382 A	HCAPLUS

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L118 ANSWER 4 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   2003:678565  HCAPLUS
DN   139:175207
TI   Iminodisuccinic acid molluscicide
IN   Wirth, Wolfgang; Reckmann, Udo; Baron, Gerhard; Groth, Torsten; Sildatke,
     Thomas
PA   Bayer CropScience AG, Germany
SO   PCT Int. Appl., 30 pp.
     CODEN: PIXXD2
DT   Patent
LA   German
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.       DATE
     ---------------     ----   --------    --------------------  --------
PI   WO 2003069996        A1    20030828    WO 2003-EP1277        20030210 <--
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     DE 10207243          A1    20030904    DE 2002-10207243      20020221 <--
     AU 2003208820        A1    20030909    AU 2003-208820        20030210 <--
PRAI DE 2002-10207243     A     20020221  <--
     WO 2003-EP1277       W     20030210
AB   Iminodisuccinic acid and its ammonium, alkali metal, alkaline-earth alkaline
metal
     or iron salts, optionally blended with magnesium, calcium and/or iron
     salt(s), are molluscicides, esp suitable for snail control.
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IC    ICM  A01N0037-44
      ICS  A01N0025-08
CC    5-4 (Agrochemical Bioregulators)
IT    7408-20-0, Iminodisuccinic acid   37406-24-9, Iminodisuccinic acid
      tetrasodium salt   581792-39-4 581792-41-8
      RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
      (Uses)
         (molluscicide)
IT    581792-41-8
      RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
      (Uses)
         (molluscicide)
RN    581792-41-8  HCAPLUS
CN    Aspartic acid, N-(1,2-dicarboxyethyl)-, iron salt (9CI)  (CA INDEX NAME)
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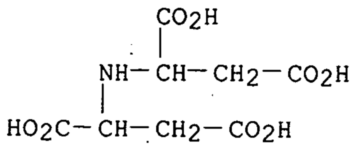

$HO_2C-CH(NH-CH(CO_2H)-CH_2-CO_2H)-CH_2-CO_2H$

●x Fe(x)

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RETABLE
   Referenced Author    |Year | VOL | PG   | Referenced Work    | Referenced
        (RAU)           |(RPY)|(RVL)|(RPG) |      (RWK)         | File
=====================+=====+=====+======+====================+===========
Leslie, Y            |1997 |     |      |WO 9726789 A        |HCAPLUS
Leslie, Y            |1999 |     |      |WO 9925194 A        |HCAPLUS
Leslie, Y            |2002 |     |      |WO 0209518 A        |HCAPLUS
Nat Res Dev          |1989 |     |      |WO 8901287 A        |HCAPLUS
Neudorff W Gmbh Kg   |1999 |     |      |WO 9939576 A        |HCAPLUS
Thomas, I            |2001 |     |      |WO 0112767 A        |HCAPLUS

L118 ANSWER 5 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN    2003:394810  HCAPLUS
DN    138:364201
TI    Ingestible molluscicide comprising transition metal complexes
IN    Puritch, George S.; Prokop, Andreas; Almond, David S.; Matson, Robert
PA    W. Neudorff G.m.b.H. K.-G., Germany
SO    Eur. Pat. Appl., 15 pp.
      CODEN: EPXXDW
DT    Patent
LA    English
FAN.CNT 1
      PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
      ---------------     ----   --------    --------------------   --------
PI    EP 1312260           A1    20030521    EP 2002-25149          20021109 <--
      EP 1312260           B1    20060208
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
      US 2003118625        A1    20030626    US 2002-289165         20021106 <--
      US 6852329           B2    20050208
      AT 317221            T     20060215    AT 2002-25149          20021109 <--
PRAI  US 2001-332720P      P     20011114  <--
AB    An effective, readily ingested molluscicidal bait poison includes a
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mollusc bait and a second component. The second component is a transition metal compound and a complexing agent, and/or the complex of a transition metal compound and a complexing agent. The complexing agent is preferably iminodisuccinic acid (IDS), including sodium IDS (IDS Na-Salt), iminodifumaric acid (IDF), iminoditartaric acid (IDT), iminodimaleic acid (IDMAL), ethylenediaminedifumaric acid (EDDF), ethylenediaminedimalic acid (EDDM) , iminodimalic acid (IDM), ethylenediamineditartaric acid (EDDT), ethylenediaminedimaleic acid (EDDMAL), and salts thereof. The second component enhances the toxicity of the bait to molluscs.

IC ICM A01N0025-00
ICS A01N0055-02; A01N0059-06; A01N0059-16; A01N0059-20

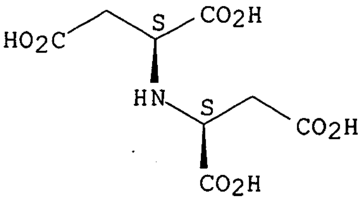
CC 5-4 (**Agrochemical** Bioregulators)

IT 50-21-5D, Lactic acid, salts with transition metals 57-11-4D, Stearic acid, salts with transition metals 77-92-9D, Citric acid, salts with transition metals 87-69-4D, Tartaric acid, salts with transition metals 526-95-4D, Gluconic acid, salts with transition metals 2466-09-3D, PyroPhosphoric acid, salts with transition metals **7408-20-0D**, Iminodisuccinic acid, transition metal complexes 7429-90-5D, Aluminum, complexes and salts 7439-89-6D, Iron, complexes and salts 7440-50-8D, Copper, complexes and salts **7440-66-6D**, Zinc, complexes and salts 7647-01-0D, Hydrochloric acid, salts with transition metals 7664-38-2D, Phosphoric acid, salts with transition metals 7664-93-9D, Sulfuric acid, salts with transition metals 7697-37-2D, Nitric acid, salts with transition metals **144538-83-0D**, transition metal complexes 145927-59-9D, transition metal complexes 145927-61-3D, transition metal complexes 524054-07-7D, transition metal complexes 524054-08-8D, transition metal complexes 524054-09-9D, transition metal complexes 524054-10-2D, transition metal complexes 524054-12-4D, transition metal complexes 524054-14-6D, transition metal complexes
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(ingestible molluscicide comprising transition metal salts and complexes)

IT **7408-20-0D**, Iminodisuccinic acid, transition metal complexes **7440-66-6D**, Zinc, complexes and salts **144538-83-0D**, transition metal complexes
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(ingestible molluscicide comprising transition metal salts and complexes)

RN 7408-20-0 HCAPLUS
CN L-Aspartic acid, N-[(1S)-1,2-dicarboxyethyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7440-66-6 HCAPLUS
CN Zinc (CA INDEX NAME)

Zn

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RN   144538-83-0  HCAPLUS
CN   Aspartic acid, N-(1,2-dicarboxyethyl)-, tetrasodium salt (9CI)  (CA INDEX
     NAME)
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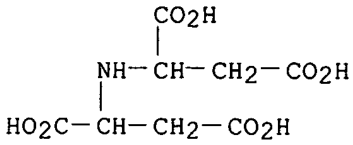

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       ●4  Na

RETABLE
   Referenced Author    |Year | VOL | PG  | Referenced Work     | Referenced
         (RAU)          |(RPY)|(RVL)|(RPG)|       (RWK)         | File
=======================+=====+=====+======+=====================+===========
Nat Res Dev             |1989 |     |      |WO 8901287 A        |HCAPLUS
Neudorff W GmbH KG      |1996 |     |      |WO 9605728 A        |HCAPLUS
Neudorff W GmbH KG      |1999 |     |      |WO 9939576 A        |HCAPLUS
Nitto Chem Ind Co Ltd   |1997 |     |      |JP 09136807 A       |HCAPLUS
Perov                   |     |     |      |Testing iron, zinc, |
Young Colin, L          |1997 |     |      |WO 9726789 A        |HCAPLUS

L118 ANSWER 6 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   2001:788757  HCAPLUS
DN   135:328372
TI   Antimicrobial mixture compositions
IN   Anzai, Ryuichi; Kikuchi, Katsuaki
PA   Mitsubishi Rayon Co., Ltd., Japan
SO   Jpn. Kokai Tokkyo Koho, 9 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND    DATE          APPLICATION NO.         DATE
     ---------------     ----    --------      --------------------    --------
PI   JP 2001302415        A      20011031      JP 2000-129716          20000428 <--
PRAI JP 2000-129716              20000428  <--
OS   MARPAT 135:328372
AB   Antimicrobial compns. contain 2 or 3 components have greater activities as
     compared to those of single components.  (a) components are, for example,
     ethylenediamine-N,N'-diacetic acid, N,N'-dilauroyl-ethylenediamine-N,N'-
     diacetic acid, ethylene diamine-N,N'-di-succinic acid or salts thereof.
     The second components (b), for example, contain cationic surfactants,
     isothiocyanic acid esters, and hinokitiol, and the third component (c),
     for example, contain (S)-aspartic acid-N-acetic acid, and (S)-aspartic
     acid-N,N-diacetic acid.  Activities of mixts. containing (a) and (b)
     components, and of those containing (a), (b), and (c) components against
     microorganisms, were demonstrated.  Reduced concns. were used in case of
     the mixts.
IC   ICM  A01N0037-44
     ICS  A01N0025-30; A01N0025-32; A01N0031-02; A01N0033-12; A01N0035-06;
          A01N0043-16; A01N0047-46; A01N0059-00; A01N0059-08; A01N0063-00
CC   5-2 (Agrochemical Bioregulators)
IT   75-13-8D, Isocyanic acid, esters   499-44-5D, Hinokitiol, esters
```

7439-93-2D, Lithium, salts of amino acids, biological studies
7440-09-7D, Potassium, salts of amino acids, biological studies
7440-22-4D, Silver, salts of amino acids, biological studies 7440-23-5D,
Sodium, salts of amino acids, biological studies 7440-31-5D, Tin, salts
of amino acids, biological studies 7440-47-3D, Chromium, salts of amino
acids, biological studies 7440-50-8D, Copper, salts of amino acids,
biological studies **7440-66-6D**, Zinc, salts of amino acids,
biological studies 7664-41-7D, Ammonia, salts of amino acids, biological
studies 9012-76-4D, Chitosan, esters
RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL
(Biological study); USES (Uses)
(agricultural antimicrobial mixture compns. containing)

IT 20846-91-7D, iron ammonium complex, mixts. with
alkylbenzyldimethylammonium compds. 24868-49-3D, mixts. with
alkylbenzyldimethylammonium compds. 29578-05-0D, mixts. with
alkylbenzyldimethylammonium compds. 34747-66-5D, metal salts, mixts.
with alkylbenzyldimethylammonium compds. 65345-21-3D, mixts. with
alkylbenzyldimethylammonium compds. 67103-03-1D, mixts. with
alkylbenzyldimethylammonium compds. 85089-78-7D, mixts. with
alkylbenzyldimethylammonium compds. 259134-56-0D, mixts. with
alkylbenzyldimethylammonium compds. 369603-51-0D, mixts. with
alkylbenzyldimethylammonium compds. 369603-52-1D, mixts. with
alkylbenzyldimethylammonium compds. **369603-53-2D**, mixts. with
alkylbenzyldimethylammonium compds.
RL: **AGR (Agricultural use)**; BUU (Biological use, unclassified);
BIOL (Biological study); USES (Uses)
(antimicrobial mixture compns. containing)

IT **7440-66-6D**, Zinc, salts of amino acids, biological studies
RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL
(Biological study); USES (Uses)
(agricultural antimicrobial mixture compns. containing)

RN 7440-66-6 HCAPLUS

CN Zinc (CA INDEX NAME)

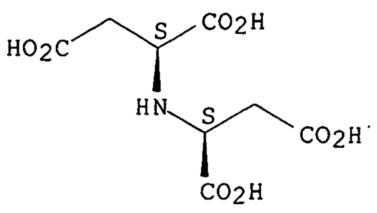
Zn

IT **369603-53-2D**, mixts. with alkylbenzyldimethylammonium compds.
RL: **AGR (Agricultural use)**; BUU (Biological use, unclassified);
BIOL (Biological study); USES (Uses)
(antimicrobial mixture compns. containing)

RN 369603-53-2 HCAPLUS

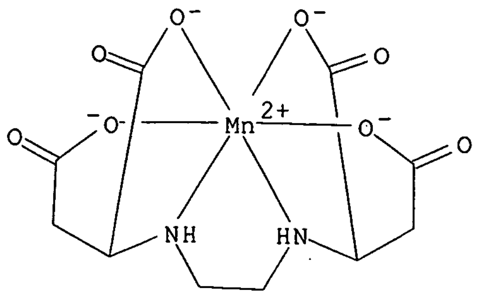
CN L-Aspartic acid, N-[(1S)-1,2-dicarboxyethyl]-, diammonium salt (9CI) (CA
INDEX NAME)

Absolute stereochemistry.



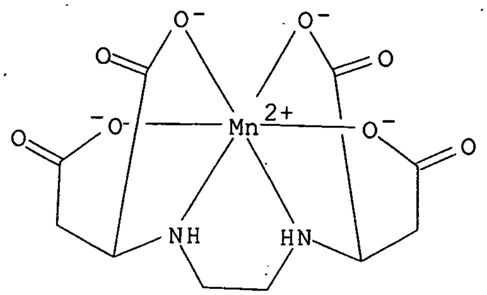
●2 NH_3

L118 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:306149 HCAPLUS
DN 135:129461
TI Photochemical activity of complexes of Mn(II) with ethylenediaminedisuccinic acid
AU Trunova, E. K.; Rogovtsov, A. A.; Mazurenko, E. A.; Shtemenko, N. I.; Makotrik, T. A.
CS Inst. Obshchei i Neorg. Khim. im. V. I. Vernadskogo, NAN Ukrainy, Kiev, Ukraine
SO Ukrainskii Khimicheskii Zhurnal (Russian Edition) (**2001**), 67(1-2), 7-11
CODEN: UKZHAU; ISSN: 0041-6045
PB Institut Obshchei i Neorganicheskoi Khimii im. V. I. Vernadskogo NAN Ukrainy
DT Journal
LA Russian
AB The photochem. decomposition of a complex Mn (II) with ethylenediamine-N,N'-disuccinic acid under action of solar light and UV-irradiation is investigated. Is shown, that photolysis accompanies by decarboxilation processes with allocation free CO2, and also ammonia and natural amino acids. The growth stimulating activity of manganese complexonates expressing in increase of total quantity free amino acids and their heterogeneity in corn leaves, is established.
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): **11**
IT **350679-79-7 350679-80-0**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(study of photodecompn. products of (ethylenediamine-N,N'-disuccinic acid)manganese(II) complexes in water solution)
IT **350679-79-7 350679-80-0**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(study of photodecompn. products of (ethylenediamine-N,N'-disuccinic acid)manganese(II) complexes in water solution)
RN 350679-79-7 HCAPLUS
CN Manganate(2-), [[N,N'-1,2-ethanediylbis[L-aspartato-κN,κO1,κO4]](4-)]-, trihydrogen (9CI) (CA INDEX NAME)



●3 H+

```
RN   350679-80-0  HCAPLUS
CN   Manganate(2-), [[[N(R),N'(R)]-N,N'-1,2-ethanediylbis[L-aspartato-
     κN,κO1,κO4]](4-)]- (9CI)  (CA INDEX NAME)
```



```
L118 ANSWER 8 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   1999:311176  HCAPLUS
DN   130:325389
TI   Preparation of iron alkali salt of S,S-ethylenediamine-N,N'-disuccinic
     acid
IN   Yamakawa, Toshitake; Sakai, Haruo
PA   Mitsubishi Rayon Co., Ltd., Japan
SO   PCT Int. Appl., 21 pp.
     CODEN: PIXXD2
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND    DATE          APPLICATION NO.        DATE
     ---------------     ----    --------      --------------------   --------
PI   WO 9923062           A1     19990514      WO 1998-JP4917         19981030 <--
         W:  AU, CN, KR, US
         RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE
     JP 11130741          A      19990518      JP 1997-314562         19971031 <--
     JP 11189579          A      19990713      JP 1997-366286         19971225 <--
     AU 9896507           A      19990524      AU 1998-96507          19981030 <--
     AU 743601            B2     20020131
     EP 1044961           A1     20001018      EP 1998-950460         19981030 <--
     EP 1044961               B1     20041222
         R:  DE, FR, GB, IT, NL
     EP 1348689               A1     20031001     EP 2003-11114          19981030 <--
         R:  DE, FR, GB, IT, NL
     EP 1526127               A2     20050427     EP 2005-2253           19981030 <--
     EP 1526127               A3     20050601
         R:  DE, FR, GB, IT, NL
     US 6300510               B1     20011009     US 2000-530275         20000428 <--
     US 2002040156            A1     20020404     US 2001-931245         20010817 <--
     US 6515159               B2     20030204
PRAI JP 1997-314562           A      19971031  <--
     JP 1997-366286           A      19971225  <--
     EP 1998-950460           A3     19981030  <--
     WO 1998-JP4917           W      19981030  <--
     US 2000-530275           A1     20000428  <--
     EP 2003-11114            A3     20030522
OS   MARPAT 130:325389
GI
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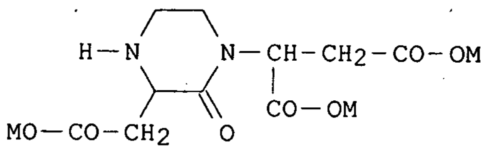


I

AB This document discloses an iron alkali salt of S,S-ethylenediamine-N,N'-disuccinic acid wherein the content of a lactam compound of general formula I [wherein M represents an ammonium or alkali metal ion] and the content of an ethylenediaminemonosuccinic acid of general formula NH2CH2CH2NHCH(CO2M)CH2CO2M (II) [wherein M represents an ammonium or alkali metal ion] are resp. 7 % by weight or less; I and II are byproducts. Compds. of this invention are useful as photog. oxidizing agents and fertilizers (no data). A mixture of S,S-ethylenediamine-N,N'-disuccinic acid 146 g, water 300 g, 98% NaOH 21 g, Fe powder 1.4 g , and magnetite 37.7 g was heated with stirring for 2 h at 80°; the reaction mixture was filtered, and the filtrate was adjusted to pH 5 and dried using a spray drier to give iron S,S-ethylenediamine-N,N'-disuccinate Na salt containing 4.5% byproducts.

IC ICM C07C0229-16
ICS C07C0227-40

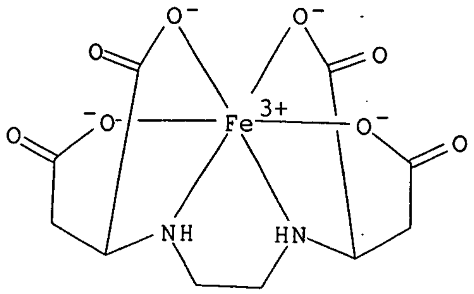
CC 34-2 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): **19**, **74**

IT **142759-76-0P 150578-05-5P 158706-40-2P**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of iron alkali salt of S,S-ethylenediamine-N,N'-disuccinic acid)

IT **142759-76-0P 150578-05-5P 158706-40-2P**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of iron alkali salt of S,S-ethylenediamine-N,N'-disuccinic acid)

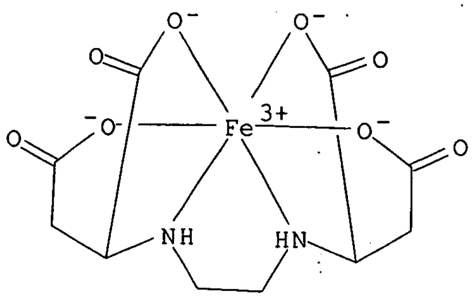
RN 142759-76-0 HCAPLUS

CN Ferrate(1-), [[N,N'-1,2-ethanediylbis[L-aspartato-κN,κO1,κO4]](4-)]-, sodium (9CI) (CA INDEX NAME)



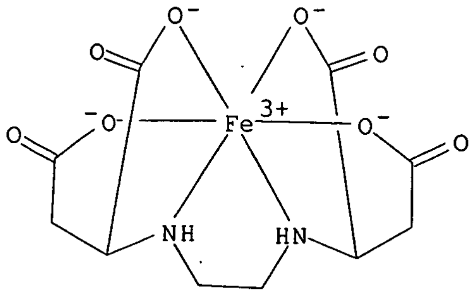
● Na^+

RN 150578-05-5 HCAPLUS
CN Ferrate(1-), [[N,N'-1,2-ethanediylbis[L-aspartato-
κN,κO1,κO4]](4-)]-, potassium (9CI) (CA INDEX NAME)



● K^+

RN 158706-40-2 HCAPLUS
CN Ferrate(1-), [[N,N'-1,2-ethanediylbis[L-aspartato-
κN2,κO1,κO4]](4-)]-, ammonium (9CI) (CA INDEX NAME)



● NH_4^+

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RETABLE
   Referenced Author    |Year | VOL | PG   | Referenced Work     | Referenced
        (RAU)           |(RPY)|(RVL)|(RPG) |      (RWK)          | File
======================+=====+=====+======+====================+===========
Anon                    |     |     |      |US 5679817 A         |HCAPLUS
Anon                    |     |     |      |EP 694528 A1         |HCAPLUS
Giken, K                |1998 |     |      |JP 10-168045 A       |HCAPLUS
Nitto Chemical Industry|1995 |     |      |JP 07-2745 A         |HCAPLUS
Nitto Chemical Industry|1995 |     |      |JP 07-291984 A       |HCAPLUS
Nitto Chemical Industry|1996 |     |      |JP 08-34764 A        |HCAPLUS
```

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L118 ANSWER 9 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   1995:294211  HCAPLUS
DN   123:142797
TI   A microelement solution for control of growth and development of fruit
     trees
IN   Shtefyrtse, Anastasiya A.; Chernat, Viktoriya I.; Kushnirenko, Margarita
     D.; Toma, Semen I.; Gorelov, Igor P.; Ryasenskij, Sergej S.
PA   Institut Fiziologii i Biokhimii Rastenij, USSR; Kalininskij
     Gosudarstvennyj Universitet
SO   U.S.S.R.
     From: Izobreteniya 1993, (21), 13.
     CODEN: URXXAF
DT   Patent
LA   Russian
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
     ---------------     ----   --------   --------------------   --------
PI   SU 1819556           A1    19930607   SU 1990-4782142        19900115 <--
PRAI SU 1990-4782142            19900115  <--
AB   A microelement solution that improves the resistance of fruit trees to
     unfavorable water conditions and productivity contains complexes of
     iminodisuccinic acid with magnesium and with zinc.  The solution contains the
     complexes in a 1:1 mass ratio at a concentration of 0.15-0.25 weight%.
IC   ICM  A01N0059-00
     ICS  A01N0055-00
CC   19-7 (Fertilizers, Soils, and Plant Nutrition)
     Section cross-reference(s): 5, 11
IT   7408-20-0D, Mn and Zn complexes   7439-95-4D, Magnesium, complexes
     with iminodisuccinic acid 7440-66-6D, Zinc, complexes with
     iminodisuccinic acid
     RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
```

```
        (a microelement solution for control of growth and development of fruit
        trees)
IT   7408-20-0D, Mn and Zn complexes 7440-66-6D, Zinc,
     complexes with iminodisuccinic acid
     RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
        (a microelement solution for control of growth and development of fruit
        trees)
RN   7408-20-0  HCAPLUS
CN   L-Aspartic acid, N-[(1S)-1,2-dicarboxyethyl]- (9CI)  (CA INDEX NAME)

Absolute stereochemistry.
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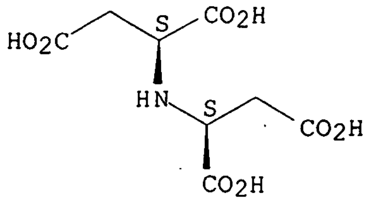

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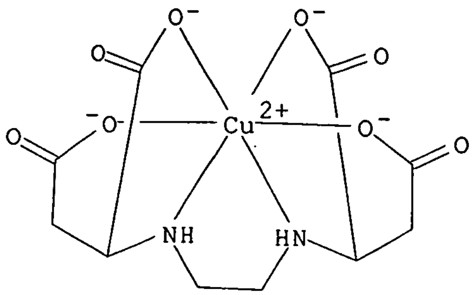
RN   7440-66-6  HCAPLUS
CN   Zinc  (CA INDEX NAME)


Zn


L118 ANSWER 10 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   1992:484913  HCAPLUS
DN   117:84913
TI   Dicarboxylic acid-biometal complexes as ecologically safe stimulators for
     plant growth
AU   Kovaleva, I. B.; Mitrofanova, N. D.; Martynenko, L. I.
CS   Mosk. Univ., Moscow, Russia
SO   Vestnik Moskovskogo Universiteta, Seriya 2:  Khimiya (1992),
     33(1), 60-3
     CODEN: VMUKA5; ISSN: 0579-9384
DT   Journal
LA   Russian
AB   Photolysis of Cu2+ and Fe3+ salts of dicarboxylic acids, i.e.,
     iminodisuccinic acid [NH CH(CO2H)CH2CO2H] and ethylenediamine-N,N'-
     disuccinic acid [(CH2NHCH(CO2H)CH2CO2H)2] under UV light was investigated
     by monitoring the degradation products (glycine, asparagine, β-alanine,
     isoleucine, etc.) by TLC.  Iminodisuccinates and ethylenediaminesuccinates
     are ecol. safe plant growth regulators.
CC   4-4 (Toxicology)
     Section cross-reference(s): 5, 19
IT   7408-20-0D, Iminodisuccinic acid, copper and iron salts 14024-52-3
     20846-91-7D, Ethylenediamine (N,N'-disuccinic acid), copper and iron salts
     67375-37-5 122075-27-8 122170-40-5
     142691-41-6 142759-76-0 142759-77-1
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (photolysis of)
IT   14024-52-3 67375-37-5 122075-27-8
     122170-40-5 142691-41-6 142759-76-0
     142759-77-1
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (photolysis of)
```

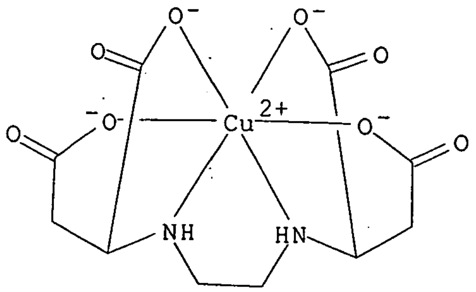
✓

RN 14024-52-3 HCAPLUS
CN Cuprate(2-), [[N,N'-1,2-ethanediylbis[L-aspartato]](4-)]-, dihydrogen (9CI) (CA INDEX NAME)



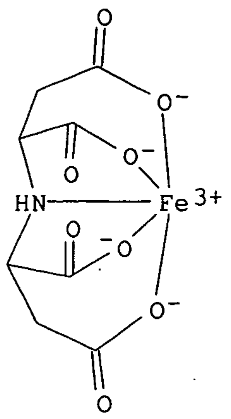
● 2 H^+

RN 67375-37-5 HCAPLUS
CN Cuprate(2-), [[N,N'-1,2-ethanediylbis[L-aspartato]](4-)]-, copper(2+) (1:1) (9CI) (CA INDEX NAME)



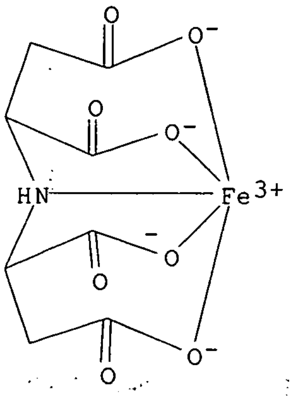
● Cu(II) 2+

RN 122075-27-8 HCAPLUS
CN Ferrate(1-), [N-(1,2-dicarboxyethyl)-L-aspartato(4-)]-, sodium (9CI) (CA INDEX NAME)



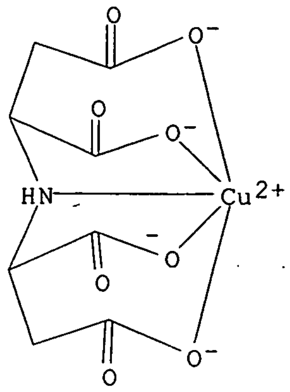
● Na+

RN 122170-40-5 HCAPLUS
CN Ferrate(1-), [N-(1,2-dicarboxyethyl)-L-aspartato(4-)]-, hydrogen (9CI)
(CA INDEX NAME)



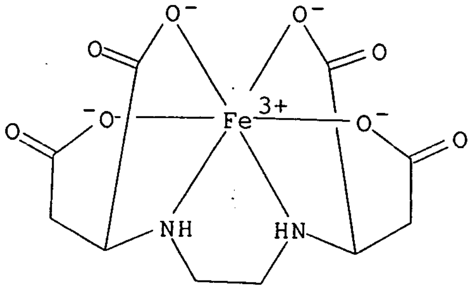
● H+

RN 142691-41-6 HCAPLUS
CN Cuprate(2-), [N-(1,2-dicarboxyethyl)-L-aspartato(4-)]-, disodium (9CI)
(CA INDEX NAME)



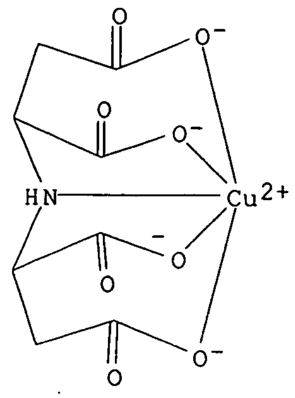
● 2 Na^+

RN 142759-76-0 HCAPLUS
CN Ferrate(1-), [[N,N'-1,2-ethanediylbis[L-aspartato-κN,κO1,κO4]](4-)]-, sodium (9CI) (CA INDEX NAME)



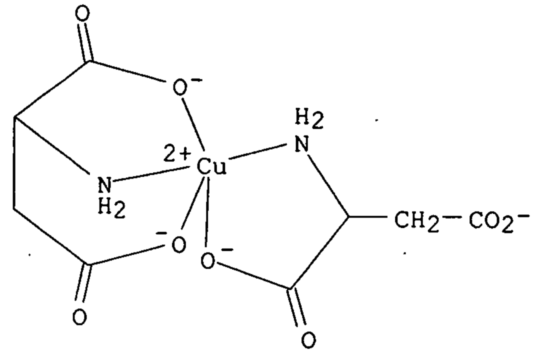
● Na^+

RN 142759-77-1 HCAPLUS
CN Cuprate(2-), [N-(1,2-dicarboxyethyl)-L-aspartato(4-)]-, dihydrogen (9CI) (CA INDEX NAME)



●2 H^+

```
L118 ANSWER 11 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   1992:78602  HCAPLUS
DN   116:78602
TI   Use of organocopper for the control of Varroa jacobsoni on honeybee
IN   Bounias, Michel; Dufour, Jean F.
PA   Benechim S. A., Belg.
SO   U.S., 16 pp.
     CODEN: USXXAM
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND    DATE        APPLICATION NO.          DATE
     ---------------     ----    --------    --------------------     --------
PI   US 5023359           A      19910611    US 1990-538030           19900613 <--
PRAI US 1990-538030              19900613  <--
OS   MARPAT 116:78602
AB   Organic Cu salts (Markush given), such as Cu glyconate, Saccharate,
     glycoheptonate, glycinate, isoleucinate, aspartate, lactate, citrate,
     etc., control V. jacobsoni on honeybee.  Addition of 1 g Cu gluconate/L to
     the syrup feed of honeybees, controlled V. jacobsoni by 86.7%.  The Cu
     salts are nontoxic to the bee and do not generate Cu accumulation in
     honey.
IC   ICM  A01K0047-00
     ICS  A01N0059-20
INCL 556114000
CC   5-4 (Agrochemical Bioregulators)
IT   527-09-3   2382-64-1D, salts, organic   10171-07-0   10402-15-0   12550-08-2
     13479-54-4   15454-74-7   15634-81-8   16039-52-4   17594-85-3
     53149-78-3   137330-77-9
     RL: BIOL (Biological study)
        (V. jacobsoni control by, on honeybee)
IT   53149-78-3
     RL: BIOL (Biological study)
        (V. jacobsoni control by, on honeybee)
RN   53149-78-3  HCAPLUS
CN   Cuprate(2-), [L-aspartato(2-)-N,O1][L-aspartato(2-)-N,O1,O4]- (9CI)  (CA
     INDEX NAME)
```



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L118 ANSWER 12 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN    1987:137517  HCAPLUS
DN    106:137517
TI    Testing iron, zinc, and manganese complexes with ethylenediaminedisuccinic
      and iminodisuccinic acids in chlorotic vineyards
AU    Perov, N. N.; Il'in, V. I.
CS    USSR
SO    Probl. Khim. Kompleksonov (1985), 81-6. Editor(s): Gorelov, I.
      P. Publisher: Kalinin. Gos. Univ., Kalinin. USSR.
      CODEN: 55KHAZ
DT    Conference
LA    Russian
AB    Two sprays with 0.1% MnEDDYaK (Mn ethylenediaminedisuccinate), 0.2%
      ZnEDDYaK, or 0.2% FeIDYaK (Fe iminodisuccinate) or 2 sprays with 0.2%,
      followed by 1 spray with 0.5%, FeEDDYaK, each spray at 600-700 L/ha,
      controlled chlorosis and increased grape yield by 15, 36, 27, and 40%,
      resp., on humus-calcareous soil.  The berry sugar changed from 21.6 to
      20.7, 22.3, 23.1, and 21.0%, resp.  Acidity changed from 8.5 to 8.5, 7.4,
      9.1, and 9.1%, resp.
CC    19-5 (Fertilizers, Soils, and Plant Nutrition)
IT    7408-20-0D, complexes with iron   7439-89-6D, complexes with
      disuccinate derivs. 7439-96-5D, complexes with
      ethylenediaminedisuccinate 7440-66-6D, complexes with
      ethylenediaminedisuccinate   20846-91-7D, complexes with iron and
      manganese and zinc
      RL: BIOL (Biological study)
         (grape chlorosis response to)
IT    7408-20-0D, complexes with iron 7439-96-5D, complexes
      with ethylenediaminedisuccinate 7440-66-6D, complexes with
      ethylenediaminedisuccinate
      RL: BIOL (Biological study)
         (grape chlorosis response to)
RN    7408-20-0  HCAPLUS
CN    L-Aspartic acid, N-[(1S)-1,2-dicarboxyethyl]- (9CI)  (CA INDEX NAME)

Absolute stereochemistry.
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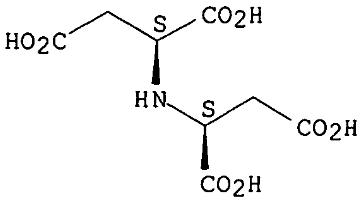

RN 7439-96-5 HCAPLUS
CN Manganese (CA INDEX NAME)

Mn

RN 7440-66-6 HCAPLUS
CN Zinc (CA INDEX NAME)

Zn

L118 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1985:77571 HCAPLUS
DN 102:77571
TI Studies with organic and inorganic copper compounds. 1. Oral substitution of a copper deficiency situation in rats and pigs
AU Kaemmerer, K.; Kietzmann, M.; Fink-Gremmels, J.
CS Inst. Pharmakol., Tieraerztliche Hochsch., Hannover, D-3000/71, Fed. Rep. Ger.
SO Zentralblatt fuer Veterinaermedizin, Reihe A (**1984**), 31(9), 645-59
CODEN: ZVRAAX; ISSN: 0300-8711
DT Journal
LA German
AB In Cu deficiency there is marked growth retardation. Cu supplements can rapidly restore growth again and for this purpose Cu aspartate [**50798-09-9**] is superior to Cu methionate [13985-65-4], while Cu-M [94555-49-4] (a patented organic Cu preparation, Cu 0.79%) is only slightly effective. In Cu deficiency the Ca concns. in serum, liver, and kidney of rats are markedly lowered. Adding Cu as sulfate, aspartate, or methionate raises the concns. again up to control concns. Cu2+ as aspartate or methionate at 2.5 mg/kg feed has an effect equal to that of 5 mg/kg feed given as Cu sulfate. The biol. product Cu-M causes no significant increases in Cu concns. In pigs 200 mg Cu2+ as sulfate and 50 or 100 mg Cu as aspartate/kg feed causes a marked increase in the serum Cu concentration To meet the animals' needs it would seem that a lower Cu addition as organic compds., such as Cu aspartate or Cu methionate, will suffice. Compared with Cu sulfate, this has an ecol. advantage.
CC 18-1 (Animal Nutrition)
IT 7758-98-7, biological studies 13985-65-4 **50798-09-9** 94555-49-4
RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
(feeding experiment with, on pigs and rats)
IT **50798-09-9**
RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
(feeding experiment with, on pigs and rats)

```
RN   50798-09-9  HCAPLUS
CN   Cuprate(2-), bis[L-aspartato(2-)-κN,κO1,κO4]- (9CI)  (CA
     INDEX NAME)
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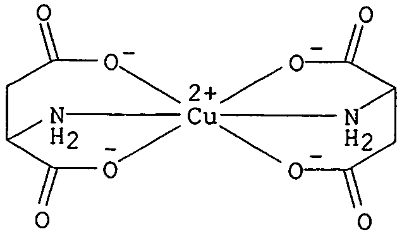

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L118 ANSWER 14 OF 14  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   1979:34985  HCAPLUS
DN   90:34985
TI   Bactericidal and fungicidal compositions containing alkoxyalkylamines and
     copper salts of organic acids
IN   Kuchikata, Masuo; Kajino, Mitsuyoshi; Tanaka, Ren; Kuyama, Hiroshi
PA   Tokyo Organic Chemical Industries, Ltd., Japan
SO   Jpn. Kokai Tokkyo Koho, 6 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND    DATE        APPLICATION NO.        DATE
     ---------------     ----    --------    --------------------   --------
PI   JP 53101524          A      19780905    JP 1977-16483          19770217 <--
     JP 60033082          B      19850801
PRAI JP 1977-16483        A      19770217  <--
AB   Reaction products from organic acid Cu salts and alkoxyalkylamines were
     active as bactericides and fungicides.  Thus, the reaction product from
     terephthalic acid-Cu benzoate and 3-isopropoxypropylamine (1:500)
     prevented Phytophthora infestans infection in tomato by 94% in 9 days.
IC   A01N0009-20
CC   5-2 (Agrochemicals)
IT   65-85-0D, copper complexes, reaction products with 3-
     (isopropoxy)propylamine   100-21-0D, copper complexes, reaction products
     with 3-(isopropoxy)propylamine   110-76-9D, reaction products with
     dicarboxylic acid cupric salts   814-91-5D, reaction products with
     2-ethoxyethylamine   2906-12-9D, reaction products with dicarboxylic acid
     cupric salts   4751-07-9D, reaction products with 2-ethoxyethylamine
     7242-69-5D, reaction products with 2-ethoxyethylamine   10027-31-3D,
     reaction products with (octyloxy)propylamine   15930-66-2D, reaction
     products with dicarboxylic acid cupric salts   27004-40-6D, reaction
     products with (n-octyloxy)propylamine 30272-90-3D, reaction
     products with 3-(isopropoxy)propylamine   33010-91-2D, reaction products
     with 2-ethoxyethylamine   34262-89-0D, reaction products with
     2-ethoxyethylamine   36015-31-3D, reaction products with
     3-(isopropoxy)propylamine   43180-95-6D, reaction products with
     2-ethoxyethylamine   51937-61-2D, reaction products with
     2-ethoxyethylamine   63986-65-2D, reaction products with
     3-(isopropoxy)propylamine   68846-69-5D, reaction products with
     2-ethoxyethylamine
     RL: BIOL (Biological study)
        (bactericide and fungicide)
IT   30272-90-3D, reaction products with 3-(isopropoxy)propylamine
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```
     RL: BIOL (Biological study)
        (bactericide and fungicide)
RN   30272-90-3  HCAPLUS
CN   Copper, [L-aspartato(2-)-κN,κO1,κO4]- (9CI)  (CA INDEX
     NAME)
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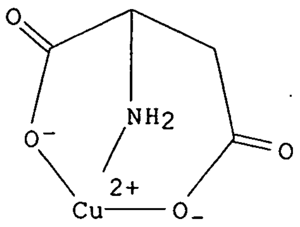

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     (FILE 'HOME' ENTERED AT 13:45:05 ON 21 FEB 2007)
                SET COST OFF

     FILE 'HCAPLUS' ENTERED AT 13:45:19 ON 21 FEB 2007
L1            1 S US20040206144/PN OR (US2003-684925# OR DE2002-10248022)/AP,PR
                E MITSCHKER/AU
L2           49 S E4,E5
                E MORITZ/AU
L3            4 S E3
                E MORITZ R/AU
L4           71 S E3,E6,E10-E12
                E NAWROCKI/AU
L5           13 S E4,E5
L6            2 S N 1 2 DICARBOXYETHYL D L ASPARTIC ACID
L7            0 S N 1 2 DICARBOXYETHYL D ASPARTIC ACID
L8            0 S N 1 2 DICARBOXYETHYL L ASPARTIC ACID
L9            0 S N 1 2 DICARBOXYETHYL DL ASPARTIC ACID
L10           7 S N 1 2 DICARBOXYETHYL ASPARTIC ACID
L11           8 S L6-L10
L12           2 S IMIDOSUCCINIC ACID
L13           0 S IMIDO SUCCINIC ACID
L14           0 S IMIDO SUCCINATE
L15           1 S IMIDOSUCCINATE
                SEL RN L1

     FILE 'REGISTRY' ENTERED AT 13:50:23 ON 21 FEB 2007
L16          10 S E1-E10
                E C8H11NO8/MF
L17          18 S E3
L18           5 S L17 AND DICARBOXYETHYL
L19          10 S L17 AND ASPART?
L20           5 S L18 AND L19
L21           5 S L19 NOT L20
L22           8 S L17 NOT L18-L21
L23           3 S C8H7NO8/MF
L24           1 S L23 AND ION
L25           5 S C8H9NO8/MF
L26           1 S L25 AND ION
L27           1 S C8H10NO8/MF
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L28             1 S C8H8NO8/MF
L29             9 S L20,L24,L26,L27,L28
                  SEL RN
L30            35 S E1-E9/CRN
L31             5 S L30 AND (ZN OR MN OR FE OR CU)/ELS
L32            30 S L30 NOT L31
L33             5 S L16 NOT L29,L31

     FILE 'HCAPLUS' ENTERED AT 13:58:22 ON 21 FEB 2007
L34             3 S L31
L35           207 S L29
L36            22 S L35 AND L33
L37            75 S L32
L38             7 S L37 AND L33
L39            27 S L34,L36,L38
L40             6 S L39 AND PY<=2002 NOT P/DT
L41            10 S L39 AND (PD<=20021015 OR PRD<=20021015 OR AD<=20021015) AND P
L42            16 S L40,L41
L43             2 S L1-L5 AND L39
L44            16 S L42,L43
L45            11 S L39 NOT L44
L46             6 S L44 AND AGR?/SC,SX
L47             4 S L44 AND SOIL?/SC,SX
L48             4 S L44 AND FERTILIZ?/SC,SX
L49             4 S L42 AND (L31 OR L35 OR L32)(L)AGR/RL
L50             8 S L46-L49
L51             8 S L44 NOT L50
                  SEL RN L39

     FILE 'REGISTRY' ENTERED AT 14:04:51 ON 21 FEB 2007
L52           271 S E10-E280
L53            38 S L52 AND CCS/CI
L54            37 S L53 AND N/ELS
L55             4 S L54 AND ASPAR?
L56            33 S L54 NOT L55
L57               STR
L58            36 S L57
L59               SCR 1918 OR 1920 OR 1964 OR 1975 OR 1991 OR 1926 OR 1956 OR 204
L60            50 S L57 AND L59
L61          6375 S L57 AND L59 FUL
                  SAV L61 SAYALA684/A
L62          1459 S L61 AND (ZN OR MN OR FE OR CU)/ELS
L63          1291 S L62 AND CCS/CI
L64               STR L57
L65            18 S L64 SAM SUB=L63
L66           389 S L64 FUL SUB=L63
                  SAV L66 SAYALA684A/A
L67           151 S L66 AND CU/ELS
L68           145 S L66 AND FE/ELS
L69            44 S L66 AND MN/ELS
L70            52 S L66 AND ZN/ELS
L71           141 S L67 AND 1/CU
L72           141 S L68 AND 1/FE
L73            36 S L69 AND 1/MN
L74            48 S L70 AND 1/ZN
L75            24 S L74 AND (AQUO OR ACETONITRILE OR NONYL OR DIAQUA OR PYRIDINYL
L76            24 S L74 NOT L75
L77            14 S L73 AND (AQUA OR NONYL OR DIAQUA OR IMIDAZOLE OR AMINOETHYL O
L78            22 S L73 NOT L77
L79           139 S L71 NOT L73-L78
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L80           54 S L79 AND (AQUO OR ACETONITRILE OR NONYL OR DIAQUA OR PYRIDINYL
L81           85 S L79 NOT L80
L82           41 S L81 AND (S/ELS OR LEUCIN? OR VALIN? OR GLUTAM? OR NAPHTH? OR
L83           44 S L81 NOT L82
L84          141 S L72 NOT L71,L73-L83
L85           22 S L84 AND (S/ELS OR LEUCIN? OR VALIN? OR GLUTAM? OR NAPHTH? OR
L86           13 S L84 AND (AQUO OR ACETONITRILE OR NONYL OR DIAQUA OR PYRIDINYL
L87            5 S L84 AND C6/ES
L88          112 S L84 NOT L85-L87
L89           16 S L88 AND (C7H8F3NO6 OR C16H16FEN2O15 OR C10H13FEN3O8 OR NITRAT
L90           96 S L88 NOT L89
L91           50 S L90 AND (C6H6FENO6 OR C15H22FEN2O8 OR C10H10FEN3O6 OR C8H11FE
                 SEL RN 2 6-8 12 23-33 43-45 47 50
L92           29 S L91 NOT E281-E301
L93          121 S L55,L76,L78,L83,L92
L94          243 S L71-L74 NOT L93
L95           24 S L94 AND ZN/ELS
L96           14 S L94 AND MN/ELS
L97           95 S L94 AND CU/ELS
L98          110 S L94 NOT L95-L97
L99           57 S L98 AND (C10H10FEN2O8 OR C10H12FEN2O8 OR C9H10FEN2O8 OR C8H10
L100          51 S L99 NOT (METHYLASPART? OR DIAQUA)
L101         172 S L93,L100
                 SAV L101 SAYALA684B/A

     FILE 'HCAPLUS' ENTERED AT 15:16:53 ON 21 FEB 2007
L102         173 S L101
L103          71 S L102 AND PY<=2002 NOT P/DT
L104          84 S L102 AND (PD<=20021015 OR PRD<=20021015 OR AD<=20021015) AND
L105         155 S L103,L104
L106           0 S L1-L5 AND L102
L107           2 S L102 (L) AGR/RL AND L105
L108           4 S L102 AND AGR?/SC,SX AND L105
L109           2 S L102 AND (SOIL? OR FERTILIZ?)/SC,SX
L110           4 S L102 AND PLANT?/SC,SX
L111           7 S L105 AND L107-L110
                 E HYDROPONICS/CT
                 E E3+ALL
L112           0 S L3 AND L105
L113           0 S E9+OLD,NT AND L105
L114          14 S L50,L111
L115          14 S L43,L114
L116           0 S BAYER?/PA,CS AND L102
L117           3 S BAYER?/PA,CS AND L42
L118          14 S L115,L117
                 E LANXESS/PA,CS
L119           0 S LANXESS?/PA,CS AND L102,L42

     FILE 'REGISTRY' ENTERED AT 15:21:12 ON 21 FEB 2007

     FILE 'HCAPLUS' ENTERED AT 15:21:32 ON 21 FEB 2007

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L120 ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   1977:535957  HCAPLUS
DN   87:135957
TI   Copper organic acid amine complex
IN   Kajino, Mitsuyoshi; Yamanari, Koichiro; Kuchikata, Masuo; Furukawa,
     Toshio; Ikari, Hirotake; Kuyama, Hiroshi
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PA   Tokyo Organic Chemical Industries, Ltd., Japan
SO   Jpn. Kokai Tokkyo Koho, 7 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.       DATE
     ---------------     ----   --------   --------------------  --------
PI   JP 52062228          A     19770523   JP 1975-136990        19751114 <--
     JP 59034717          B     19840824
PRAI JP 1975-136990       A     19751114  <--
AB   Copper organic acid amine complexes were prepared by reaction of dicarboxylic
     acid Cu salts with amines in aqueous or amine-dissolving media at
     0-50°.  The products are useful against harmful organisms.  Thus, 4
     g dodecylamine in EtOH was added to 20 g Cu terephthalate in EtOH at room
     temperature and the mixture stirred 2 h to give a product, whose IR chart was
     presented.  Cu glutamate, phthalate, aspartate, oxalate, maleate, etc.,
     were similarly treated with Me(CH2)11NMe2, EtMeCHNH2, cyclohexylamine,
     (H2C:CHCH2)2NH, PhCH2NH2, etc.
IC   C07F0001-08
CC   29-9 (Organometallic and Organometalloidal Compounds)
IT   100-46-9DP, complexes with copper organic acid salts   108-91-8DP, complexes
     with copper organic acid salts   112-18-5DP, complexes with copper organic acid
     salts   124-02-7DP, complexes with copper organic acid salts   124-22-1DP,
     complex with copper terephthalate   4751-07-9DP, complexes with amines
     7057-72-9DP, complexes with amines   10027-30-2DP, complexes with amines
     13952-84-6DP, complexes with copper organic acid salts   16223-74-8DP,
     complexes with amines 30272-90-3DP, complexes with amines
     34262-89-0DP, complex with dodecylamine
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (preparation of)
IT   30272-90-3DP, complexes with amines
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (preparation of)
RN   30272-90-3  HCAPLUS
CN   Copper, [L-aspartato(2-)-κN,κO1,κO4]- (9CI)  (CA INDEX
     NAME)
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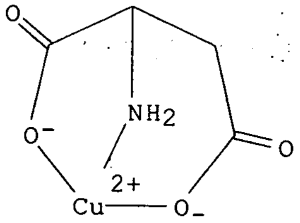

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